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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CRUZ, MAGDA

ART UNIT PAPER NUMBER

2851

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/723,002

Applicant(s)

TENG ET AL.

Examiner

Magda Cruz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 and 13 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9-19 and 21-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al.

Chen et al. (US Patent Number 6,367,933 B1) discloses:

- Regarding claim 1, a method comprising: selecting a plurality of corners (i.e. pixels by pixel, corners of the screen image 140) within a distorted image projected on a projection surface (column 2, lines 48-49) using a graphical user interface (element 202); and predistorting the image responsive to the selecting where the predistorted image exhibits no distortion when projected on the projection surface (column 2, lines 60-65).
- Regarding claims 2, 15 and 27, a method and an apparatus for aligning a center of the original projected image with a center of the projection surface (column 7, lines 10-17).
- Regarding claim 3, a method where the distorting is responsive to the aligning (column 7, lines 58-61).

- Regarding claim 4, a method where the aligning is before the selecting (i.e. keystone distortion that would result from projecting an image; column 7, lines 50-56).
- Regarding claim 5 and 17, a method and apparatus comprising fixing a center of the predistorted image coincident with the center of the projection surface (column 16, lines 32-42).
- Regarding claims 6 and 18, a method and an apparatus where the selecting comprises selecting two corners of the image (column 18, lines 38-40).
- Regarding claims 7 and 19, a method and an apparatus where the selecting comprises selecting four corners of the image (column 18, lines 9-15).
- Regarding claim 9, a method where the predistorting the image comprises scaling the image (column 13, lines 46-47).
- Regarding claims 10 and 22, a method and an apparatus where the scaling comprises vertically (i.e. Y coordinate) scaling the image (column 13, lines 47-51).
- Regarding claims 11 and 23, a method and an apparatus where the vertically scaling comprises calculating vertical scalar ($R_x(y)$) registers (column 20, lines 47-50).

- Regarding claims 12 and 24, a method and an apparatus where the scaling comprises horizontally (i.e. X coordinate) scaling the image (column 13, lines 47-51).
- Regarding claims 13 and 25, a method and an apparatus where the horizontally scaling comprises calculating horizontal scalar ($R_x(Y)$) registers (column 13, lines 47-51).
- Regarding claim 14, an apparatus, comprising: means for graphically selecting a plurality of corners within a distorted image (i.e. pixels by pixel, corners of the screen image 140) projected on a projection surface (column 2, lines 48-49); and means for distorting the image responsive to the plurality of corners (i.e. deforming the original image pixel by pixel; column 2, lines 60-65).
- Regarding claim 16, the means for distorting is responsive to the center of the image (column 8, lines 22-40).
- Regarding claim 21, means for distorting the image comprises means for scaling the image (column 13, lines 66 through column 14, line 9).
- Regarding claim 26, an apparatus (Figure 2, element 200), comprising: a user interface (Figure 2, element 202) to allow a user to graphically identify a plurality of corners (i.e. borders of the original image) of a distorted image projected on a surface (column 9, lines 39-41); a controller (Figure 2, element 208) to distort the image responsive to the plurality of corners (column 9, lines 51-55).

- Regarding claim 28, the interface (Figure 2, element 202) is a graphical user interface (i.e. store and retrieve images; column 9, lines 18-20).
- Regarding claim 29, the controller (Figure 2, element 208) comprises: a vertical (i.e. Y coordinate) scalar to vertically scale the image and a horizontal (i.e. X coordinate) scalar to horizontally scale the image (column 13, lines 38-56).
- Regarding claim 30, the controller sets scalar registers (i.e. scaling factor; column 19, lines 47-48).
- Regarding claim 31, the vertical and horizontal scalars ($R_x(y)$ and $R_x(Y)$) operate responsive to the scalar registers (column 19, line 47 through column 20, line 51).
- Regarding claim 32, the plurality of corners is two (column 18, lines 38-40).
- Regarding claim 33, the plurality of corners is four (column 18, lines 9-15).
- Regarding claim 34, the controller (Figure 2, element 208) generates a distorted image before projecting the distorted image on the surface (column 9, lines 50-55).
- Regarding claim 35, graphically selecting a plurality of corners within an original image (i.e. four corners of Image_1; column 8, line 36) projected as a distorted image (i.e. Image_2; column 8, lines 59-60) on a projection surface using a graphical user interface (Figure 2, element 202); and graphically aligning a center of the image (i.e. point 0; column 8, line 34)

with a center of the projection surface using the graphical user interface; and vertically scaling the original image responsive to the graphically selecting and aligning by calculating vertical scalar registers (column 20, lines 47-50); horizontally scaling the original image responsive to the graphically selecting and aligning by calculating horizontal scalar registers (column 13, lines 45-7-51); where the predistorted image exhibits no distortion when projected on the projection surface (column 2, lines 61-65).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Kawashima et al.

Chen et al. (US Patent Number 6,367,933 B1) teaches the salient features of the present invention as explained above (see rejection under §102(b)), except a method and means for selecting using an on screen display means to do the selecting.

Kawashima et al. (US Patent Number 6,592,228 B1) discloses a method and means for selecting using an on screen display means to do the selecting. (column 10, lines 18-24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a method using an OSD means to do the selecting as shown by Kawashima et al. in combination with the interface from Chen et al.'s invention, for the purpose of generating a test pattern or entry screen used in the adjustment (Kawashima et al., column 7, lines 50-52).

Response to Arguments

5. Applicant's arguments filed on 03/08/2006 have been fully considered but they are not persuasive.

6. The applicant has argued, "there is no indication in Chen that these corners are in any way selected by a user much less selected to inform the recited predistorting". However, Chen teaches that the image is formed by a number of lines which are formed by a number of pixels (column 2, lines 48-57) wherein said image may be deformed on a line-by-line, pixel-by-pixel or other basis (column 2, lines 48-49); therefore, it is inherent that the corners of the image 140 in Figure 1C are part of the image that is deformed/distorted. Furthermore, Chen discloses that the four corners of Image _1 are represented by C0, C1, C2 and C3 (column 8, lines 36-37).

7. The applicant has argued, "Chen does not purposefully or intentionally disclose choosing from among several or picking out any corners". However, Chen discloses that a portion of the image may be selected as a result of deforming an original image (column 2, lines 57-61); therefore, it is inherent that Chen is capable of picking out any

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corners of said image. Also, Chen discloses that the four corners of Image _1 are represented by C0, C1, C2 and C3 (column 8, lines 36-37).

8. The applicant has argued, "Nothing in Chen suggests that the selecting is occurring within an original image projected as a distorted image on a projection surface, much less using a graphical user interface". However, Chen discloses various methods for keystone adjustment in which a deformed image is constructed from an original image (column 8, lines 58-67), wherein the CPU interface facilitates a sequence of instructions for one or more methods (column 9, lines 9-17).

9. The applicant has argued that the "Image_1 is not the same as the original image". However, Chen teaches that the Image_1 is the same as the original image (column 8, line 60).

10. The applicant has argued that the prior art does not teach an interface that is a graphical user interface. However, Chen discloses a CPU interface (element 202) and a memory interface (element 204), which is coupled to a processor that may be internal or external to the apparatus (i.e. projector or projection system; element 200), which may operate in accordance with a sequence of instructions (column 9, lines 9-33).

11. Applicant's arguments regarding Kawashima fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (571) 272-2114. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William Perkey
Primary Examiner

Magda Cruz
Patent Examiner

May 17, 2006